

Applicant : Robert Parker  
Serial No. : 09/364,241  
Filed : July 29, 1999  
Page : 7 of 16

Attorney's Docket No.: 02103-349001 / AABOSS03

### REMARKS

Claims 1-9, 13 and 15 have been amended to overcome formal objections and/or define the invention with particularity. Claims 10-12 and 14 are presented without further amendment for reconsideration in the light of the following remarks and authorities.

The courtesy of Examiner Tran in granting the telephone interview of April 21, 2006, and the numerous helpful comments proffered at that time are acknowledged with appreciation. During the course of the interview Examiner Tran expressed concern about the claim language as having formal objections and not adequately distinguishing over the prior art.

We proposed amending claims to overcome these objections and define with particularity the subject matter sought to be patented.

During the course of the interview we discussed the Alberkrack patent assigned to Motorola and noted that this patent disclosed maintaining the local oscillator frequency above the frequency of the desired received signal so that the local oscillator frequency would be outside the range of the television reception frequencies for the VHF and UHF bands when receiving channels at the high end of each band.

We explained that the claimed invention always maintains the local oscillator frequency within the predetermined range of reception frequencies.

4-8. Claims 1-3, 8 and 9 were objected to because of uses of the articles "A" and "the" thought to be inappropriate at various points in the claims. The claims have been amended to overcome these objections.

The office action states:

9. Claims 1-2, 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Alberkrack U.S. Patent 3,883,807.

Regarding claim 1, Alberkrack teaches a phase locked-loop tuning system for a television receiver, the tuning system fortuning VHP and UHF channels. In column 2 lines 50-65, FIG. 1 is a block diagram of a channel selection and tuning control system used to control the local oscillator in the VHP and UHF tuner sections 10 and 11, respectively, of a television receiver. The predetermined frequency range according to Alberkrack invention is either VHF or UHF. Figure 1 does not show a signal path for receiving an electromagnetic signal, however, the television receiver inherently receives an electromagnetic signal either in VHF or UHF ranges.

Applicant : Robert Parker  
Serial No. : 09/364,241  
Filed : July 29, 1999  
Page : 8 of 16

Attorney's Docket No.: 02103-349001 / AABOSS03

In column 3 lines 40-50, a keyboard switch section 13 is operated to directly select the desired channel number. In column 2 lines 5-35, the output from divide channel number is compared in a phase/frequency comparator 40 with a reference oscillator signal to produce a control voltage used in a phase-locked loop to control the frequency of operation of the local oscillator 10 or 11, e.g. VHP tuner or UHF tuner. In column 3 lines 20-30, the local oscillator frequencies for the tuners range from a low 101 MHz for VHP channel 2 to a high of 931 MHz for UHF channel 83. In view of that, the local oscillator frequency is always within the range of either VHP or UHF.

Regarding claim 2, claim 2 is rejected on the same ground as for claim 1 because of similar scope. Furthermore, the keyboard switch section 13 is operated to directly select the desired channel number, which is representative of the claimed desired received signal frequency.

Regarding claim 9, claim 9 is rejected on the same ground as for claim 1 because of similar scope. Furthermore, the claimed range is within UHF frequency range.

Regarding claim 10, claim 10 is rejected on the same ground as for claim 1 because of similar scope. Furthermore, the 45.75 MHz picture If frequency corresponds to the claimed predetermined intermediate frequency. The keyboard switch selection 13 and the keyboard memory and lock 14 correspond to the claimed source of signal; see figure 1. The phase frequency comparator 40 and gated offset oscillators 20, 21 and 22, couple to the VHF tuner VCO 10 and UHF Tuner VCO 11, constitutes the claimed frequency controller. Pp. 4-5.

This ground of rejection is respectfully traversed at least as applied to 1, 2 and 9 as amended and claim 10 as previously presented.

"It is well settled that anticipation under 35 U.S.C. 102 requires the presence in a single reference of all of the elements of a claimed invention." *Ex parte Chopra*, 229 U.S.P.Q. 230, 231 (BPA&I 1985) and cases cited.

"Anticipation requires the presence in a single prior art disclosure of all elements of a claimed invention arranged as in the claim." *Connell v. Sears, Roebuck & Co.*, 220 U.S.P.Q. 193, 198 (Fed. Cir. 1983).

"This court has repeatedly stated that the defense of lack of novelty (i.e., 'anticipation') can only be established by a single prior art reference which discloses each and every element of the claimed invention." *Structural Rubber Prod. Co. v. Park Rubber Co.*, 223 U.S.P.Q. 1264, 1270 (Fed. Cir. 1984), citing five prior Federal Circuit decisions since 1983 including *Connell*.

Applicant : Robert Parker  
Serial No. : 09/364,241  
Filed : July 29, 1999  
Page : 9 of 16

Attorney's Docket No.: 02103-349001 / AABOSS03

In a later analogous case the Court of Appeals for the Federal Circuit again applied this rule in reversing a denial of a motion for judgment n.o.v. after a jury finding that claims were anticipated. *Jamesbury Corp. v. Litton Industrial Prod., Inc.*, 225 U.S.P.Q. 253 (Fed. Cir. 1985).

After quoting from *Connell*, "Anticipation requires the presence in a single prior art disclosure of all elements of a claimed invention arranged as in the claim," 225 U.S.P.Q. at 256, the court observed that the patentee accomplished a constant tight contact in a ball valve by a lip on the seal or ring which interferes with the placement of the ball. The lip protruded into the area where the ball will be placed and was thus deflected after the ball was assembled into the valve. Because of this constant pressure, the patented valve was described as providing a particularly good seal when regulating a low pressure stream. The court quoted with approval from a 1967 Court of Claims decision adopting the opinion of then Commissioner and later Judge Donald E. Lane:

[T]he term "engaging the ball" recited in claims 7 and 8 means that the lip contacts the ball with sufficient force to provide a fluid tight seal. \*\*\* The Saunders flange or lip only sealingly engages the ball 1 on the upstream side when the fluid pressure forces the lip against the ball and never sealingly engages the ball on the downstream side because there is no fluid pressure there to force the lip against the ball. The Saunders sealing ring provides a compression type of seal which depends upon the ball pressing into the material of the ring. \*\*\* The seal of Saunders depends primarily on the contact between the ball and the body of the sealing ring, and the flange or lip sealingly contacts the ball on the upstream side when the fluid pressure increases. 225 U.S.P.Q. at 258.

Relying on *Jamesbury*, the ITC said, "Anticipation requires looking at a reference, and comparing the disclosure of the reference with the claims of the patent in suit. A claimed device is anticipated if a single prior art reference discloses all the elements of the claimed invention as arranged in the claim." *In re Certain Floppy Disk Drives and Components Thereof*, 227 U.S.P.Q. 982, 985 (U.S. ITC 1985).

Examiner Tran commented on the reference disclosing in Fig. 1 a number of crystal oscillators. But none of these crystal oscillators were local oscillators. The abstract explains what the reference discloses as a phase-locked tuning system for a television receiver that tunes the VHF and UHF local oscillators to the required frequency for the channel selected by sampling the output frequencies of the VHF and UHF local oscillators, pre-scaling these output

Applicant : Robert Parker  
Serial No. : 09/364,241  
Filed : July 29, 1999  
Page : 10 of 16

Attorney's Docket No.: 02103-349001 / AABOSS03

frequencies to a different frequency range under the control of selected gated offset oscillators to produce a signal which is divided in a programmable divide-by-N counter, wherein N is the desired channel number. The counter output is compared with the reference frequency to produce the control voltage for the tuner local oscillators to lock them on the proper frequency for the selected channel as explained in column 3 of the reference for the standard 45.75 MHz picture IF carrier frequency. The local oscillator frequencies for the tuners range from a low 101 MHz for VHF channel 2 to a high of 931 MHz for UHF channel 83. The reference notes that the inner channel spacing between all of the UHF channels and between different groups of the VHF channels is a standard 6 MHz spacing, a 10 MHz inner channel space exists between VHF channels 4 and 5, a 92 MHz spacing exist between VHF channels 6 and 7 the spacing separating the low band and high band (VHF channels) and a 260 MHz spacing between VHF channel 13 and the lowest UHF channel 14.

We enclose a table of television channel frequencies. Thus when tuning to channel 83 that is between 884-890 MHz, the local oscillator frequency at 931 MHz, 45.7 MHz above the carrier frequency of channel 83, the local oscillator frequency is outside the UHF and both VHF bands. For receiving VHF channel 6 the local oscillator frequency is about 129 MHz, which is outside both VHF bands and the UHF band. When tuning high band channel 13, the local oscillator frequency is about 257 MHz, which is outside both VHF bands and the UHF band.

Now consider the rejected claims. Claims 1, 2 and 9 all call for selecting the desired frequency of a desired received signal within a predetermined range of reception frequencies and always tuning the oscillator of the receiver to a frequency within the predetermined range of reception frequencies based on the threshold frequency that is less and more than the desired frequency when the desired frequency is above and below the threshold frequency, respectively. The reference does not disclose these limitations of these claims.

Rejected claim 10 recites the local oscillator, the source of a signal representative of the frequency of a desired signal to be received within the predetermined frequency range and a frequency controller coupled to the local oscillator and the source of a signal for providing a frequency control signal to the local oscillator that always sets the frequency of the local oscillator to a frequency that differs from the frequency of the desired signal by the intermediate

Applicant : Robert Parker  
Serial No. : 09/364,241  
Filed : July 29, 1999  
Page : 11 of 16

Attorney's Docket No.: 02103-349001 / AABOSS03

frequency and is within said predetermined frequency range. That limitation cannot be met by the reference.

Accordingly, withdrawal of the rejection of claims 1, 2, 9 and 10 as anticipated by the reference is respectfully requested. If this ground of rejection is repeated, the Examiner is respectfully requested to quote verbatim the language in the reference regarded as corresponding to each of the limitations identified above.

The office action states:

10. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alberkrack U.S. Patent 3,883,807.

Regarding claim 3, claim 3 is rejected on the same ground as for claim 1 because of similar scope.

Alberkrack does not expressly teach the claimed step of "further comprising representing the threshold frequency as an index value of a set of index values, the set of index values uniquely corresponding to a set of channels in the predetermined range of reception frequencies".

In column 4 lines 50-67, see figure 1, Alberkrack teaches that the frequencies selected for the gated offset oscillators 20, 21 and 22 are uniquely selected; so that when the output signals from the oscillators 20, 21 and the amplifier 25 are mixed with the standard local oscillator frequency for a television receiver operating with a 45.75 MHz picture If frequency, the output of the programmable divider 38 for a properly tuned VHP channel is always 120 kilohertz. A phase-frequency comparator circuit 40 is supplied with the output of the programmable divider 38 and with a 120 kilohertz reference signal from a reference oscillator 42 and produces an error or control voltage in a conventional manner, normally associated with phase-locked loop systems.

Because the 120-kilohertz reference signal is representative for a properly tuned VHP channel, it would have been obvious for one of ordinary skill in the art at the time the invention was made that the 120-kilohertz reference signal, corresponding to the claimed threshold frequency, can be modified to represent an index value of a set of index values representing a set of VMS channels.

Regarding claim 4, Alberkrack does not expressly teach tuning. the oscillator comprises applying one of at least two frequency offsets as set forth in the application claim.

However, as recited in claim 3, because Alberkrack teaches that the frequencies selected for the gated offset oscillators 20, 21 and 22 are uniquely selected; so that when the output signals from the oscillators 20, 21 and the amplifier 25 are mixed with the standard local oscillator frequency for a television receiver operating with a 45.75 MHz picture If frequency, one of ordinary skill in the art at the time the invention was made would have recognized that the act of mixing one of the gated offset oscillators 20, 21 and 22 with the standard local

Applicant : Robert Parker  
Serial No. : 09/364,241  
Filed : July 29, 1999  
Page : 12 of 16

Attorney's Docket No.: 02103-349001 / AABOSS03

oscillator frequency for a television receiver operating with a 45.75 MHz picture. If frequency would be equivalent to the step of tuning the oscillator comprises applying one of at least two frequency offsets as set forth in the application claim.

Regarding claim 5, due to complexity of processing different magnitudes for the output signals of the gated offset oscillators 20, 21 and 22, one of ordinary skill in the art at the time the invention was made would have been motivated to select equal magnitudes for the output signals of the gated offset oscillators 20, 21 and 22.

Regarding claim 6, the VMS frequency ranges is from 30 MHz to 328.6 MHz, corresponding to the claimed FHIGH and FLOW. The gated offsets are within the VHS frequency range.

Regarding claim 7, in column 3 lines 60-67, Alberkrack teaches the oscillator 20 is an 89 MHz oscillator, which is enabled whenever any one of VHP channels 2, 3 and 4 is selected. Because 89 MHz gated offset is used for the selection of any one of VHP channels 2, 3 and 4, one of ordinary skill in the art at the time the invention was made would have recognized that 89 MHz gated offset would be representative for first, second and third frequency offsets. The 89 MHz gated offset is equal to an intermediate frequency, e.g. 45 MHz picture IF frequency. Pp. 6-8.

The ground of rejection is respectfully traversed.

"The mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification." *In re Gordon*, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984).

As the Federal Circuit Court of Appeals said in *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999):

Close adherence to this methodology is especially important in the case of less technologically complex inventions, where the very ease with which the invention can be understood may prompt one 'to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.'

And in *In re Kotzab*, 55 U.S.P.Q.2d 1313, 1316 (Fed. Cir. 2000), the Court said:

[I]dentification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. *See id.* [*Dembiczak*]. Rather, to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by

Applicant : Robert Parker  
Serial No. : 09/364,241  
Filed : July 29, 1999  
Page : 13 of 16

Attorney's Docket No.: 02103-349001 / AABOSS03

the applicant. *See In re Dance*, 160 F.3d 1339, 1343, 48 U.S.P.Q.2d 1635, 1637 (Fed. Cir. 1998), *In re Gordon*, 733 F.2d 900, 902, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984). Even when obviousness is based on a single prior art reference, there must be a showing of a suggestion or motivation to modify the teachings of that reference. *See B. F. Goodrich Co. v. Aircraft Braking Sys. Corp.*, 72 F.3d 1577, 1582, 37 U.S.P.Q.2d 1314, 1318 (Fed. Cir. 1996).

"A reference is only good for what it clearly and definitely discloses." *In re Hughes*, 145 U.S.P.Q. 467, 471 (C.C.P.A. 1965); *In re Moreton*, 129 U.S.P.Q. 227, 230 (C.C.P.A. 1961).

Claim 3 includes limitations discussed above in connection with claims 1, 2 and 9 and cannot be anticipated by the reference. Nor does the reference suggest the desirability of modifying what is there disclosed to meet the terms of claim 3. Claims 4 and 5 are dependent upon and include all the limitations of claim 1 and are patentable over the reference at least for the reasons set forth above in support of the patentability of claims 1 and 3.

Accordingly, withdrawal of the rejection of claims 3-5 as unpatentable over the reference is respectfully requested. If this ground of rejection is repeated, the Examiner is respectfully requested to quote verbatim the language in the reference regarded as corresponding to each limitation discussed above in connection with claims 1, 2 and 9 and quote verbatim the language in the reference regarded as suggesting the desirability of modifying what is there disclosed to meet the limitations of claims 3-5. It appears as if claims 6 and 7 are rejected on the reference under section 103. However, these claims are dependent upon and include all the limitations of claim 5 and the reasoning set forth above in support of the patentability of claim 5 are submitted to support the patentability of claims 6 and 7 so that further discussion of these claims is submitted to be unnecessary.

The office action states:

11. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alberkrack U.S. Patent 3,883,807 in view of Skerlos U.S. Patent 4,163,259.

Regarding claim 11, claim 11 is rejected on the same ground as for claim 10 because of similar scope.

Alberkrack does not show a signal path and a mixer coupled to the local oscillator and the signal path as set forth in the application claim.

Skerlos discloses in figure 1 a television tuner including a signal path, an UHF and VHP tuner coupled to the signal path. The UHF and VHP tuner inherently comprises a mixer coupled the local oscillator and the signal path.

Applicant : Robert Parker  
Serial No. : 09/364,241  
Filed : July 29, 1999  
Page : 14 of 16

Attorney's Docket No.: 02103-349001 / AABOSS03

Because Alberkrack teaches a UHF and VHP tuner for a television receive, it would have been obvious for one of ordinary skill in the art at the time the invention was made that Alberkrack teachings can be modified to include a signal path and mixer as taught in Skerlos invention.

Regarding claim 12, Alberkrack teaches a phase-locked loop tuning system as shown in figure 1.

Regarding claim 13, claim 13 is rejected on the same ground as for claim 11 because of similar scope. Furthermore, the claimed range is within UHF frequency range. Pp. 8-9.

This ground of rejection is respectfully traversed. Claim 11 positively recites the local oscillator the signal path for conducting a received electrical signal reception frequency within a predetermined range of frequencies, the mixer coupled to the local oscillator in signal path for providing an intermediate frequency of predetermined intermediate frequency and the frequency controller coupled to the local oscillator and the signal path for providing a frequency control signal to the local oscillator that always sets the frequency of the local oscillator to a frequency that differs from that of a received signal within the predetermined frequency range by the intermediate frequency and is within the predetermined frequency range. The latter limitation is absent from both the primary and secondary references.

We rely on the authorities set forth in the response filed on 8 November 2005. Furthermore it is impossible to combine the references to meet the limitations of claims 11-13.

"Moreover, we observe that even if these references were combined in the manner proposed by the examiner, that which is set forth in appellant's claims . . . would not result." *Ex parte Bogar*, slip op. p.7 (BPA&I Appeal No. 87-2462, October 27, 1989). "Even if we were to agree with the examiner that it would have been obvious to combine the reference teachings in the manner proposed, the resulting package still would not comprise zipper closure material that terminates short of the end of the one edge of the product containing area, as now claimed." *Ex parte Schwarz*, slip op. p.5 (BPA&I Appeal No. 92-2629 October 28, 1992). "Although we find nothing before us indicating why it would be desired to combine the references in the manner urged by the examiner, it is clear to us that such a modification by itself would not result in that which is set forth in the claims." *Ex Parte Kusko*, 215 U.S.P.Q. 972, 974 (BPA&I 1981).



Applicant : Robert Parker  
Serial No. : 09/364,241  
Filed : July 29, 1999  
Page : 15 of 16

Attorney's Docket No.: 02103-349001 / AABOSS03

That it is impossible to combine the references to meet the limitations of claims 11-13 is reason enough for allowing them.

Accordingly withdrawal of the rejection of claims 11-13 as unpatentable over the primary and secondary references is respectfully requested. Should this ground of rejection be repeated, the Examiner is respectfully requested to quote verbatim the language in the references corresponding to the last subparagraph of claim 11 and quote verbatim the language in the references regarded as suggesting the desirability of combining what is there disclosed to meet the limitations of claims 11-13.

The office action states:

12. Claims 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alberkrack U.S. Patent 3,883,807 and Skerlos U.S. Patent 4,163,259 as applied to claim 11 and further in view of Kuo et al. U.S. Patent 5,307,515. Regarding claim 14, claim 14 is rejected on the same ground as for claim 11 because of similar scope. Alberkrack and Skerlos do not teach the frequency controller further comprises a microprocessor as claimed.

Kuo et al. invention is directed to a radio receiver with less susceptibility to adjacent channel interference. In figure 1, column 2 line 64 via column 3 line 10, a conventional receiver includes an antenna 10 connected to a radio frequency (RF) amplifier 11. An RF signal is output from RF amplifier 11 and mixed in a mixer 12 with a mixing signal  $f_0$  from a phase-locked loop local oscillator 13. The frequency of mixing signal for is controlled by a microcontroller 14. in response to an external tuning input and frequency-shifts a desired RF signal from RF amplifier 11 to the intermediate frequency (IF) of the receiver. Alberkrack, Skerlos, and Kuo et al. invention are in the same field of endeavor. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention that Alberkrack receiver can be modified to implement a microcontroller for frequency control as taught by Kuo et al.. Motivation is that the microcontroller provides speed and more accuracy. Pp. 9-10.

This ground of rejection is respectfully traversed. We have shown above that the primary reference and the secondary reference fail to disclose the limitations in the penultimate subparagraph of claim 14. The tertiary reference does not disclose this limitation either. It is therefore impossible to combine the three references to meet the limitations of claim 14. Accordingly, withdrawal of the rejection of claim 14 as unpatentable over the primary, secondary and tertiary references is respectfully requested. Should this ground of rejection be repeated the Examiner is respectfully requested to quote verbatim the language in the references

Applicant : Robert Parker  
Serial No. : 09/364,241  
Filed : July 29, 1999  
Page : 16 of 16

Attorney's Docket No.: 02103-349001 / AABOSS03

regarded as corresponding to the penultimate paragraph of claim 14 and quote verbatim the language in the references regarded as suggesting the desirability of combing what is there disclosed to meet the limitations of claim 14.

The allowability of claims 8 and 15 is noted. These claims have been amended to avoid possible formal objections.

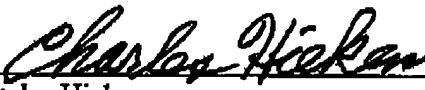
In view of the foregoing amendments, authorities and inability of the prior art, alone or in combination, to anticipate, suggest or make obvious the subject matter as a whole of the invention disclosed and claimed in this application, all the claims are submitted to be in a condition for allowance and notice thereof is respectfully requested. Should the Examiner believe the application is not in a condition for allowance, he is respectfully requested to telephone the undersigned attorney at 617-521-7014 to discuss what additional steps he believes are necessary to place the application in a condition for allowance.

Please apply any other charges or credits to deposit account 06-1050, Order No. 02103-349001.

APR 24 2006

Date: \_\_\_\_\_

Respectfully submitted,  
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Enclosure: Copy of T.V. channel frequencies

Table 1-27—Television Ch. Display

provided by Fish & Richardson P.C.

[http://www.fish.com/content/needs/4191/csf/4191\\_107.htm](http://www.fish.com/content/needs/4191/csf/4191_107.htm)

Table 1-27—Television Channel Requirements

Channel	Band Limits (MHz)	Channel	Band Limits (MHz)
2	54.60	43	644.650
3	60.66	44	650.656
4	66.72	45	656.662
5	76.82	46	662.668
6	82.88	47	668.674
7	174.180	48	674.680
8	180.186	49	680.686
9	186.192	50	686.692
10	192.198	51	692.698
11	198.204	52	698.704
12	204.210	53	704.710
13	210.216	54	710.716
14	470.476	55	716.722
15	476.482	56	722.728
16	482.488	57	728.734
17	488.494	58	734.740
18	494.500	59	740.746
19	500.506	60	746.752
20	506.512	61	752.758
21	512.518	62	758.764
22	518.524	63	764.770
23	524.530	64	770.776
24	530.536	65	776.782
25	536.542	66	782.788
26	542.548	67	788.794
27	548.554	68	794.800
28	554.560	69	800.806
29	560.566	70	806.812
30	566.572	71	812.818
31	572.578	72	818.824
32	578.584	73	824.830
33	584.590	74	830.836
34	590.596	75	836.842

Type to search

<a href="http://www.fish-r.com/content/needs/14191/ass/14191_107.htm">http://www.fish-r.com/content/needs/14191/ass/14191_107.htm</a>		<a href="http://www.fish-r.com/content/needs/14191/ass/14191_107.htm">http://www.fish-r.com/content/needs/14191/ass/14191_107.htm</a>	
Medical	174-180	48	674-680
Medical	180-186	49	680-686
Medical	186-192	50	686-692
Medical	192-198	51	692-698
Medical	198-204	52	698-704
Medical	204-210	53	704-710
Medical	210-216	54	710-716
Medical	216-222	55	716-722
Medical	222-228	56	722-728
Medical	228-234	57	728-734
Medical	234-240	58	734-740
Medical	240-246	59	740-746
Medical	246-252	60	746-752
Medical	252-258	61	752-758
Medical	258-264	62	758-764
Medical	264-270	63	764-770
Medical	270-276	64	770-776
Medical	276-282	65	776-782
Medical	282-288	66	782-788
Medical	288-294	67	788-794
Medical	294-300	68	794-800
Medical	300-306	69	800-806
Medical	306-312	70	806-812
Medical	312-318	71	812-818
Medical	318-324	72	818-824
Medical	324-330	73	824-830
Medical	330-336	74	830-836
Medical	336-342	75	836-842
Medical	342-348	76	842-848
Medical	348-354	77	848-854
Medical	354-360	78	854-860
Medical	360-366	79	860-866
Medical	366-372	80	866-872
Medical	372-378	81	872-878
Medical	378-384	82	878-884
Medical	384-390	83	884-890